[DOCUMENT NAME] SPECIFICATION

[TITLE OF THE INVENTION] INFORMATION PROVIDING SYSTEM,
METHOD THEREOF, AND PROGRAM

[APPLICABLE FIELD IN THE INDUSTRY]

5   [0001]

The present invention relates to a technology of
providing information for a purpose of displaying
information in information processing terminals such as a
computer and a mobile telephone, and more particularly to

10   a technology of information display, which employs a
probability based upon a bid amount of money of
information, thereby to decide a displaying order of
information.

[BACKGROUND ART]

15   [0002]

Conventionally, there is a system in which retrieving
information by employing an internet etc. allows
information such as an advertisement to be displayed as a
result of this retrieval. In this system, the order

20   decided according to a bid amount of money of information
such as the advertisement is assumed to be an information
displaying order. That is, the larger the bid amount of
money is, the higher the displaying order ranks, and in
other word, the smaller the bid amount of money is, the

25   lower the order in which information is displayed ranks,

which means that this displaying order is decided in a fixed manner. Additionally, some systems in which the displaying order is decided in consideration of a coefficient such as a popularity degree of its information are similar to the above-mentioned system in a sense that the displaying order is based upon the order decided by the bid amount of money.

[DISCLOSURE OF THE INVENTION]

[PROBLEMS TO BE SOLVED BY THE INVENTION]

[0003]

However, in the conventional system mentioned above, for example, an information provider such as an advertiser who is inferior in a budget scale or a profit ratio is not able to offer a large bid amount of money, and the displaying order ranks low as a result, which is also decided in a fixed manner, so the above information results in being constantly displayed in the rear side where a recognition effect is low. In particular, there exists a restrain to a display screen in the mobile terminal such as a mobile telephone, which remarkably brings the foregoing defect to light.

[0004]

For this reason, the above system is not a system in which a great power can be exhibited, from a viewpoint of acquisition of a wide layer of customers and continuous

utilization. In addition hereto, it is not a system in which a great power can be exhibited, also from a viewpoint of allowing a retrieving person's interest to be maintained because there exists no change in the retrieval result when a movement in the bid is little.

[0005]

Thereupon, the present invention has been accomplished in consideration of the above-mentioned problems, and an object thereof is to provide a technology of providing information that allows the high-ranked displaying opportunity to be given to all advertisements while the bid amount of money is taken into consideration.

[0006]

Further, an object of the present invention is to provide a technology of providing information that allows the order for displaying information to be changed and a retrieving person's interest to be maintained also in a case where no change in information to be provided exists, due to little movement in the bid etc. or the like.

[MEANS TO SOLVE THE PROBLEM]

[0007]

The first invention for solving the above-mentioned problem, which is an information providing system for providing information responding to a retrieval request from a terminal, is characterized in including a database

having information, which an information provider provides, and a bid amount of money of said information stored correspondingly, a displaying order deciding means for selecting corresponding pieces of information from said

5   database responding to the retrieval request of information to decide a displaying order of said information based upon the bid amount of money that corresponds to each of these pieces of information, and a means for transmitting information to the terminal so that

10 information is displayed in said decided displaying order.

[0008]

The second invention for solving the above-mentioned problem is characterized in that in the above-mentioned first invention, the displaying order deciding means is

15 configured to decide the displaying order of information based upon a probability that is calculated from the ratio of the bid amount of money of each selected information over the sum of bid amounts of money of selected pieces of information.

20   [0009]

The third invention for solving the above-mentioned problem is characterized in that in the above-mentioned second invention, the displaying order deciding means comprises: a sum-of-bid-amount-of-money calculating means

25 for acquiring the bid amount of money that correspond to

information to calculate a sum of these bid amounts of
money; a ratio calculating means for calculating a ratio
of the bid amount of money of information over said sum of
bid amounts of money information by information; and a

5   displaying order deciding means for deciding one piece of
information, which is displayed, from pieces of
information based upon a probability proportional to
magnitude of said calculated ratio of each information;
and said displaying order deciding means is configured so

10 that: in a case where the number of selected pieces of
information is m and the number of display is n, said sum-
of-bid-amount-of-money calculating means calculates a sum
of bid amounts of money of m pieces of information, said
ratio calculating means calculates a ratio of the bid

15 amount of money of each of m pieces of information, and
said displaying order deciding means decides information
of which the displaying order is a first rank based upon a
probability proportional to magnitude of each of said
ratios of m pieces of information; continuously, said sum-

20 of-bid-amount-of-money calculating means calculates a sum
of bid amounts of money of (m-1) pieces of information
except the bid amount of money of the information decided
in said displaying order deciding means, said ratio
calculating means calculates a ratio of the bid amount of

25 money of each of (m-1) pieces of information except the

bid amount of money of the information decided in said

displaying order deciding means, and said displaying order

deciding means decides information of which the displaying

order is a second rank based upon a probability

5 proportional to magnitude of each of said ratios of (m-1)

pieces of information; this computation is performed until

information of which the displaying order is an (n-1)-th

rank is decided; and finally, said sum-of-bid-amount-of-

money calculating means calculates a sum of bid amounts of

10 money of (m-n+1) pieces of information except the bid

amount of money of the information decided in said

displaying order deciding means, said ratio calculating

means calculates a ratio of the bid amount of money of

each of (m-n+1) pieces of information except the

15 information decided in said displaying order deciding

means, and said displaying order deciding means decides

information of which the displaying order is an n-th rank

based upon a probability proportional to magnitude of each

of said ratios of (m-n+1) pieces of information, thereby

20 allowing the displaying order of information ranging from

a first rank up to an n-th rank to be decided.

[0010]

The fourth invention for solving the above-mentioned

problem is characterized in that in the above-mentioned

25 second or third invention, the information providing

system comprises: a means for recording the number of

times of display of each information in the terminal; a

means for recording the click number of each information

displayed in the terminal; and a means for calculating a

5   ratio of the click number to said number of times of

display for each selected information; and the displaying

order deciding means decides the displaying order of

information based upon a probability that is calculated

from a ratio of the bid amount of money of information

10   over said sum of bid amounts of money and a ratio of the

click number to said number of times of display.

[0011]

The fifth invention for solving the above-mentioned

problem is characterized in that a program of an

15   information providing server for providing information

responding to a retrieval request from a terminal,

characterized in causing said server to function as; a

displaying order deciding means for, responding to the

retrieval request of information, selecting corresponding

20   pieces of information from a database having information,

which an information provider provides, and a bid amount

of money of said information stored correspondingly to

decide the displaying order of said information based upon

the bid amount of money that correspond to each of theses

25   pieces of information; and a means for transmitting

information to the terminal so that information is displayed in said decided displaying order.

[0012]

The sixth invention in the above-mentioned fifth invention for solving the above-mentioned problem is characterized in causing said displaying order deciding means to decide the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of each selected information over a sum of bid amounts of money of selected pieces of information.

[0013]

The seventh invention in the above-mentioned sixth invention for solving the above-mentioned problem is characterized in causing said displaying order deciding means to function as: a sum-of-bid-amount-of-money calculating means for acquiring the bid amount of money that corresponds to information to calculate a sum of these bid amounts of money; a ratio calculating means for calculating a ratio of the bid amount of money of information over said sum of bid amounts of money information by information; and a displaying order deciding means for deciding one piece of information, which is displayed, from pieces of information based upon a probability proportional to magnitude of said calculated

ratio of each information; and causing said displaying

order deciding means to operate so that: in a case where

the number of selected information is m, and the number of

the display is n, said sum-of-bid-amount-of-money

5   calculating means calculates a sum of bid amounts of money

of m pieces of information, said ratio calculating means

calculates a ratio of the bid amount of money of each of m

pieces of information, and said displaying order deciding

means decides information of which the displaying order is

10   a first rank based upon a probability proportional to

magnitude of each of said ratios of m pieces of

information; continuously, said sum-of-bid-amount-of-money

calculating means calculates a sum of bid amounts of money

of (m-1) pieces of information except the bid amount of

15   money of the information decided in said displaying order

deciding means, said ratio calculating means calculates a

ratio of the bid amount of money of each of (m-1) pieces

of information except the bid amount of money of the

information decided in said displaying order deciding

20   means, and said displaying order deciding means decides

information of which the displaying order is a second rank

based upon a probability proportional to magnitude of each

of said ratios of (m-1) pieces of information; this

computation is performed until information of which the

25   displaying order is an (n-1)-th rank is decided; and

finally, said sum-of-bid-amount-of-money calculating means calculates a sum of bid amounts of money of (m-n+1) pieces of information except the bid amount of money of the information decided in said displaying order deciding

5   means, said ratio calculating means calculates a ratio of the bid amount of money of each of (m-n+1) pieces of information except the bid amount of money of the information decided in said displaying order deciding means, and said displaying order deciding means decides

10   information of which the displaying order is an n-th rank based upon a probability proportional to magnitude of each of said ratios of (m-n+1) pieces of information, thereby allowing the displaying order of information ranging from a first rank up to an n-th rank to be decided.

15   [0014]

The eighth invention in the above-mentioned sixth or seventh invention for solving the above-mentioned problem is characterized in causing: said server to function as: a means for recording the number of times of display of each

20   information in a terminal; a means for recording the click number of each information displayed in the terminal; and a means for calculating a ratio of the click number to said number of times of display for each selected information; and said displaying order deciding means to

25   operate so that the displaying order of information is

decided based upon a probability that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said number of times of display.

[0015]

The ninth invention for solving the above-mentioned problem is characterized in that an information providing method of providing information responding to a retrieval request from a terminal, characterized in comprising: a displaying order deciding step of selecting pre-stored pieces of information responding to the retrieval request of information to decide a displaying order of information based upon a bid amount of money that corresponds to each of these pieces of information; and a step of transmitting information to the terminal so that information is displayed in said decided displaying order.

[0016]

The tenth invention for solving the above-mentioned problem is characterized in that in the above-mentioned ninth invention, the displaying order deciding step is a step of deciding the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of each selected information over a sum of bid amounts of money of selected pieces of information.

[0017]

The eleventh invention for solving the above-mentioned problem is characterized in that in the above-mentioned tenth invention, in said displaying order deciding step:
in a case where the number of selected information is m, and the number of display is n, a sum of bid amounts of money of m pieces of information is calculated, a ratio of the bid amount of money of information over said sum of bid amounts of money of m pieces of information is calculated, and information of which the displaying order is a first rank is decided based upon a probability proportional to magnitude of each of said ratios of m pieces of information; continuously, a sum of bid amounts of money of (m-1) pieces of information except the bid amount of money of said decided information is calculated, a ratio of the bid amount of money of information over said sum of bid amounts of money of (m-1) pieces of information except the bid amount of money of said decided information is calculated, and information of which the displaying order is a second rank is decided based upon a probability proportional to magnitude of each of said ratios of (m-1) pieces of information; this computation is performed until information of which the displaying order is an (n-1)-th rank is decided; and finally, a sum of bid amounts of money of (m-n+1) pieces of information except

the bid amount of money of said decided information is
calculated, a ratio of the bid amount of money of
information over said sum of bid amounts of money of (m-
n+1) pieces of information except said decided information
5   is calculated, and information of which the displaying
order is an n-th rank is decided based upon a probability
proportional to magnitude of each of said ratios of (m-
n+1) pieces of information, thereby allowing the
displaying order of information ranging from a first rank
10   up to an n-th rank to be decided.

[0018]

In the above-mentioned tenth or eleventh invention,
the twelfth invention for solving the above-mentioned
problem is characterized in including the steps of:
15   recording the number of times of display of each
information in a terminal and the click number of each
information displayed in the terminal; and deciding the
displaying order of information based upon a probability
that is calculated from a ratio of the bid amount of money
20   of information over said sum of bid amounts of money and a
ratio of the click number to said number of times of
display.

[0019]

The thirteenth invention for solving the above-
25   mentioned problem is characterized in an advertisement

information publishing system for providing advertisement information responding to a retrieval request from a terminal, characterized in comprising: a database having advertisement information and a bid amount of money of

5   said advertisement stored correspondingly; an advertisement publishing order deciding means for, responding to the retrieval request from the terminal, selecting corresponding pieces of advertisement information from said database to deciding an

10   advertisement publishing order of said advertisement information based upon a bid amount of money of each of these pieces of advertisement information; and a means for transmitting advertisement information to the terminal so that an advertisement is displayed in said decided

15   advertisement publishing order.

[0020]

In the above-mentioned thirteenth invention, the fourteen invention for solving the above-mentioned problem is characterized in that said advertisement publishing

20   order deciding means is configured so as to decide the advertisement publishing order based upon a probability that is calculated from a ratio of the bid amount of money of each advisement that becomes an object of display over a sum of bid amounts of money of advertisements that

25   become an object of display.

[0021]

The fifteenth invention for solving the above-mentioned problem is an advertisement information publishing method of providing advertisement information responding to a retrieval request from a terminal, characterized in comprising: a step of selecting corresponding pieces of advertisement information responding to the retrieval request from the terminal; an advertisement publishing order deciding step of deciding an advertisement publishing order of advertisement information based upon the bid amount of money of each of said selected pieces of advertisement information; and a step of transmitting advertisement information to the terminal so that an advertisement is displayed in said decided advertisement publishing order.

[0022]

In the above-mentioned fourteen invention, the sixteenth invention for solving the above-mentioned problem is characterized in that said advertisement publishing order deciding step is a step of deciding the advertisement publishing order based upon a probability that is calculated from a ratio of the bid amount of money of each advisement that becomes an object of display over a sum of bid amounts of money of advertisements that become an object of display.

[0023]

The seventeenth invention for solving the above-mentioned problem is a controlling program of an information processing unit for providing advertisement information responding to a retrieval request from a terminal, characterized in causing said information processing unit to function as: an advertisement publishing order deciding means for, responding to the retrieval request from the terminal, selecting corresponding pieces of advertisement information from a database having advertisement information and a bid amount of money of an advertisement stored correspondingly to deciding an advertisement publishing order of said advertisement information based upon the bid amount of money of each of these pieces of advertisement information; and a means for transmitting advertisement information to the terminal so that an advertisement is displayed in said decided advertisement publishing order.

[0024]

In the above-mentioned sixteenth invention, the eighteenth invention for solving the above-mentioned problem is characterized in causing said information processing unit to function as a means for deciding the advertisement publishing order based upon a probability that is calculated from a ratio of the bid amount of money

of each advertisement that becomes an object of display over a sum of bid amounts of money of advertisements that become an object of display.

[EFFECTS OF THE INVENTION]

5 [0025]

The present invention produces an excellent effect of enabling the high-ranked displaying opportunity to be given to all pieces of information while the bid amount of money is taken into consideration.

10 [0026]

Further, the present invention enables a retrieving person to be given the opportunity of contacting much more pieces of information.

[BRIEF DESCRIPTION OF THE DRAWINGS]

15 [0027]

[Fig. 1]

Fig. 1 is a configuration view illustrating one embodiment of the present invention.

[Fig. 2]

20 Fig. 2 is a configuration view illustrating one embodiment of the present invention.

[Fig. 3]

Fig. 3 is a configuration view illustrating one embodiment of the present invention.

25 [Fig. 4]

Fig. 4 is an operational flowchart of registering a retrieving site company.

[Fig. 5]

Fig. 5 is a view illustrating one example of an administration screen.

[Fig. 6]

Fig. 6 is a view illustrating one example of a retrieving site company registration screen.

[Fig. 7]

Fig. 7 is a view illustrating one example of a retrieving site company database.

[Fig. 8]

Fig. 8 is an operational flowchart of registering an information provider.

[Fig. 9]

Fig. 9 is a view illustrating one example of an information provider administration screen.

[Fig. 10]

Fig. 10 is a view illustrating one example of an information provider registration screen.

[Fig. 11]

Fig. 11 is a view illustrating one example of an information provider database.

[Fig. 12]

Fig. 12 is an operational flowchart of registering a

linking of a retrieval keyword and an information category.

[Fig. 13]

Fig. 13 is a view illustrating one example of a retrieval keyword information category mapping-database.

5   [Fig. 14]

Fig. 14 is an operational flowchart of registering a linking of the information category and a retrieving site company category.

[Fig. 15]

10   Fig. 15 is a view illustrating one example of a retrieving site company category registration screen.

[Fig. 16]

Fig. 16 is a view illustrating one example of a retrieving site company category information category

15   mapping-database.

[Fig. 17]

Fig. 17 is an operational flowchart of registering publishing conditions.

[Fig. 18]

20   Fig. 18 is a view illustrating one example of a publishing condition registration screen.

[Fig. 19]

Fig. 19 is a view illustrating one example of a publishing condition database.

25   [Fig. 20]

Fig. 20 is an operational flowchart of processing a retrieval result display.

[Fig. 21]

Fig. 21 is a view for explaining a process of a publishing order decision.

[Fig. 22]

Fig. 22 is a flowchart of an information publication fee charge.

[Fig. 23]

Fig. 23 is a view illustrating one example of a bill issue screen.

[Fig. 24]

Fig. 24 is a view illustrating one example of a charged amount-of-money confirmation screen.

[Fig. 25]

Fig. 25 is an operational flowchart of an information publication fee payment.

[Fig. 26]

Fig. 26 is a view illustrating one example of a payment specification issue screen.

[Fig. 27]

Fig. 27 is a view illustrating one example of a payment amount-of-money confirmation screen.

[Fig. 28]

Fig. 28 is a general block configuration view of an

information administrating server 3 having a means for
deciding the displaying order of the present invention
implemented.

[DESCRIPTION OF NUMERALS]

5   [0028]

1 retrieving person's personal computer (including
mobile telephone)

2 retrieving server

3 information administrating server

10   4   information administrating personal computer

5   information provider's personal computer

[BEST MODE FOR CARRYING OUT THE INVENTION]

[0029]

The present invention links, for example, the ratio of
15 the bid amount of money of each information over the sum
of bid amounts of money of all pieces of information that
are to be displayed within an identical frame, to a
displaying priority-order decision. Hereinafter, a
specific embodiment of the present invention will be
20 explained.

[Embodiment 1]

[0030]

The embodiment of the present invention will be
explained.

25   [0031]

Each of Fig. 1, Fig. 2 and Fig. 3 is a configuration view illustrating one embodiment of the present invention.

[0032]

As shown in Fig. 1, this system includes a retrieving person's personal computer (including a mobile telephone) 1, a retrieving server 2, an information administrating server 3, an information administrating personal computer 4, and an information provider's personal computer 5.

[0033]

In such a configuration, at first, a flow of information will be explained by making a reference to the accompanied drawings.

[0034]

At first, as shown in Fig. 1, (1) an access to the information administrating server 3 is made from the information administrating personal computer 4, thereby to register a retrieving site company database, a retrieval keyword information category mapping-database, and a retrieving site company category information category mapping-database.

[0035]

(2) An access to the information administrating server 3 is made from the information provider's personal computer 5, thereby to register an information provider database and a publication condition database.

[0036]

Continuously, as shown in Fig. 2, (3) a retrieval result is requested of the retrieving server 2 from the retrieving person's personal computer (including a mobile telephone) 1.

[0037]

(4) The retrieving server 2 requests registration information, which meets the conditions, of the information administrating server 3.

[0038]

(5) The information administrating server 3 confirms the publication condition database, selects information that meets the requested condition, and decides the displaying priority order.

[0039]

(6) The information decided in the previous item is transmitted from the information administrating server 3 to the retrieving server 2.

[0040]

(7) The registration information meeting the requested condition transmitted by the information administrating server 3 is incorporated in a display frame prepared by the retrieving server 2, and is displayed in the retrieving person's personal computer (including a mobile telephone) 1.

[0041]

(8) In a case where a retrieving person A has selected information delivered from the information administrating server 3, click information is transmitted to the retrieving server 2.

[0042]

(9) The retrieving server 2 transmits the click information to the information administrating server 3.

[0043]

(10) The information administrating server 3 records the click information into a charge database.

[0044]

Next, as shown in Fig. 3, (11) charged amount-of-money information is requested of the information administrating server 3 from the information administrating personal computer 4.

[0045]

(12) The information administrating server 3 confirms the charge data base, and transmits the charged amount-of-money information to the information administrating personal computer 4.

[0046]

(13) An information administrator A charges the information provider on the basis of the charged amount-of-money information.

[0047]

(14) Payment amount-of-money information is requested of the information administrating server 3 from the information administrating personal computer 4.

[0048]

(15) The information administrating server 3 confirms the charge data base, and transmits the payment amount-of-money information to the information administrating personal computer 4.

[0049]

(16) The information administrator A makes a payment to the retrieving site company on the basis of the payment amount-of-money information.

[0050]

The above is the flow of information in the entirety of the system.

[0051]

Next, a specific operation will be explained.

[0052]

1. Registration of the retrieving site company

The retrieving site company that desires to get the retrieval result of the information administrating server 3 has to register a company name, an address, a profit-sharing ratio, a keyword retrieval correspondence/non-correspondence, a category retrieval correspondence/non-

correspondence, etc. (retrieving site company registration).

Thereupon, an operation of registering the retrieving site company will be explained. Fig. 4 is an operational
5 flowchart of registering the retrieving site company.

[0053]

At first, an information administrator B makes an access to the information administrating server 3 from the information administrating personal computer 4 (S110). The
10 information administrating server 3 transmits an administration screen (S100). On example of the administration screen is shown in Fig. 5.

[0054]

The information administrator B selects a retrieving
15 site company registration button, and requests a retrieving site company registration screen (S111). The information administrating server 3 transmits the retrieving site company registration screen (S101). One example of the retrieving site company registration screen
20 is shown in Fig. 6.

[0055]

The information administrator B inputs the retrieving site company information into the retrieving site company registration screen and transmits it (S112). The
25 information administrating server 3 records the retrieving

site company information into the retrieving site company database (S102). One example of the retrieving site company database is shown in Fig. 7. Additionally, a key of the retrieving site company database is a retrieval

5   site number. The information administration server 3 transmits the fact that the retrieving site company registration has been completed (S103).

[0056]

In such a manner, the registration of the retrieving

10   site company is carried out.

[0057]

2. Registration of the information provider

The information provider, who desires that information is displayed in the retrieval result of the retrieving

15   person's personal computer (including a mobile telephone) 1, has to register a company name, an address, etc. (information provider registration). Thereupon, an operation of registering the information provider will be explained. Fig. 8 is an operational flowchart of

20   registering the information provider.

[0058]

At first, an information provider C makes an access to the information administrating server 3 from the information provider's personal computer 5 (S210).

25   [0059]

The information administrating server 3 transmits an information provider administration screen (S200). On example of the information provider administration screen is shown in Fig. 9.

5   [0060]

The information provider C selects an information provider registration button, and requests an information provider registration screen (S211). The information administrating server 3 transmits the information provider

10   registration screen (S201). One example of the information provider registration screen is shown in Fig. 10.

[0061]

The information provider C inputs information provider information into the information provider registration

15   screen and transmits it (S212).

[0062]

The information administrating server 3 records the information provider information into the information provider database (S202). One example of the information

20   provider database is shown in Fig. 11. Additionally, a key of the information provider database is an information provider number.

[0063]

The information administration server 3 transmits the

25   fact that the information provider registration has been

completed (S203).

[0064]

In such a manner, the registration of the information provider is carried out.

5   3. Registration of a linkage of the retrieval keyword and the information category.

There exists a necessity for registering the linkage of the information category and the retrieval keyword (registration of the information category and the

10   retrieval keyword). Thereupon, an operation of registering the linkage of the retrieval keyword and the information category will be explained. Fig. 12 is an operational flowchart of registering the linkage of the retrieval keyword and the information category.

15   [0065]

At first, the information administrator B makes an access to the information administrating server 3 from the information administrating personal computer 4 (S310).

[0066]

20   The information administrating server 3 transmits the administration screen (S300). This administration screen is one shown in Fig. 5.

[0067]

The information administrator B selects a retrieval

25   keyword registration button, and requests a retrieval

keyword registration screen (S311). The information administrating server 3 transmits the retrieval keyword registration screen (S301). This retrieval keyword registration screen is one shown in Fig. 10.

[0068]

The information administrator B inputs retrieval keyword information into the retrieval keyword registration screen and transmits it (S312).

[0069]

The information administrating server 3 records the retrieve keyword information into the retrieve keyword information category mapping-database (S302). One example of the retrieve keyword information category mapping-database is shown in Fig. 13. Additionally, a key of the retrieve keyword information category mapping-database is retrieve keyword, and this key is given, thereby allowing the information category number to be specified.

[0070]

The information administration server 3 transmits the fact that the retrieve keyword registration has been completed (S303).

[0071]

In such a manner, the registration of the linkage of the information category and the retrieval keyword is carried out.

4. Registration of a linkage of the retrieving site company category and the information category.

There exists a necessity for registering the linkage of the information category and the retrieving site company category (registration of the information category and the retrieval category). Thereupon, an operation of registering the linkage of the information category and the retrieving site company category will be explained. Fig. 14 is an operational flowchart of registering the linkage of the information category and the retrieving site company category.

[0072]

The information administrator B makes an access to the information administrating server 3 from the information administrating personal computer 4 (S410).

[0073]

The information administrating server 3 transmits the administration screen (S400). This administration screen is one shown in Fig. 5.

[0074]

The information administrator B selects a retrieving site company category registration button, and requests a retrieving site company category registration screen (S411). The information administrating server 3 transmits the retrieving site company category registration screen

(S401). One example of the retrieving site company category registration screen is shown in Fig. 15.

[0075]

The information administrator B inputs retrieval category information into the retrieving site company category registration screen and transmits it (S412).

[0076]

The information administrating server 3 records the retrieve category information into the retrieving site company category information category mapping-database (S402). One example of the retrieving site company category information category mapping-database is shown in Fig. 16. Additionally, a key of the retrieving site company category information category mapping-database is the retrieval site number and a retrieval site category number, and these keys are given, thereby allowing the information category number to be specified. The information administration server 3 transmits the fact that the retrieve category registration has been completed (S403).

[0077]

In such a manner, the registration of the linkage of the information category and the retrieval category is carried out.

5. Registration of a publication condition

The information provider, who desires that information is displayed in the retrieval result of the retrieving person's personal computer (including a mobile telephone) 1, has to register a publication content, a bid amount of money, a budget, etc. for each category that is utilized (publication condition registration). Thereupon, an operation of registering the publication condition will be explained. Additionally, the so-called bid amount of money is an amount of money that is paid when the retrieving person has clicked the information, which the information provider desires is displayed. Fig. 17 is an operational flowchart of registering the publication condition.

[0078]

The information provider C makes an access to the information administrating server 3 from the information provider's personal computer 5 (S510). The information administrating server 3 transmits an information provider administration screen (S500). The information provider administration screen is one shown in Fig. 9.

[0079]

The information provider C selects a publication condition registration button, and requests a publication condition registration screen (S511).

[0080]

The information administrating server 3 transmits the

publication condition registration screen (S501). One example of the publication condition registration screen is shown in Fig. 18.

[0081]

The information provider C inputs publication condition information into the publication condition registration screen and transmits it (S512).

[0082]

The information administrating server 3 records the publication condition information into a publication condition database (S502). One example of the publication condition database is shown in Fig. 19. Additionally, a key of the publication condition database is the information category, and this key is given, thereby allowing the information provider number, the bid amount of money and the information content to be specified.

[0083]

The information administration server 3 transmits the fact that the publication condition registration has been completed (S503).

[0084]

In such a manner, the registration of the publication condition is carried out.

6. Process of the retrieval result display.

The process in a case where a retrieving person A

utilizes the retrieving person's personal computer (including a mobile telephone) 1 for retrieving will be explained by employing Fig. 20.

[0085]

The retrieving person A makes an access to the retrieving server 2 by making a retrieving operation in the retrieving person's personal computer (including a mobile telephone) 1, and requests the retrieval result (S600).

[0086]

The retrieving server 2 makes an access to the information administrating server 3 and requests the registration information that meets the condition (S610).

[0087]

The information administrating server 3 confirms the publication condition database, and extracts the registration information that meets the condition. The information administrating server 3 decides the displaying priority order according to the ratio of the bid amount of money of each information over the sum of bid amounts of money of all extracted pieces of information.

[0088]

Herein, the method of deciding the displaying priority order will be explained.

[0089]

The decision of the displaying priority order is based upon the ratio of the bid amount of money of each information over the sum of bid amounts of money of all corresponding pieces of information.

5   [0090]

For example, in a case where the corresponding advertisement is [life insurance-related-information] (see Fig. 21), the sum of bid amounts of money is 100 yen (50+20+10+10+10). Thus, the ratio of the bid amount of

10   money of each information over the sum of bid amounts of money of all corresponding pieces of information becomes 50% (50/100) with Aiu Insurance Service, 20% (20/100) with Insurance Total Portal, 10% (10/100) with Akihabara Life Insurance, 10% (10/100) with Second Life Insurance, and

15   10% (10/100) with Roppongi Life, respectively.

[0091]

The decision of the second rank of the displaying priority order is based upon the ratio of the bid amount of money of each information over the sum of bid amounts

20   of money of all pieces of information except the information of which the displaying priority order has been decided as a first rank. If it is assumed that the displaying priority order of Aiu Insurance Service is a first rank, the sum of bid amounts of money for deciding

25   the second rank of the displaying priority order is 50 yen

(20+10+10+10). Thus, the ratio of the bid amount of money
of each information over the sum of bid amounts of money
of all remaining pieces of information becomes 40% (20/50)
with Insurance Total Portal, 20% (10/50) with Akihabara

5   Life Insurance, 20% (10/50) with Second Life Insurance,
and 20% (10/50) with Roppongi Life, respectively.

[0092]

This is repeated until the displaying priority order
of all pieces of information that exists in the

10 corresponding information category is decided.

[0093]

And, its result content information is transmitted to
the retrieving server 2 (S620).

[0094]

15 The registration information meeting the requested
condition transmitted by the information administrating
server 3 is incorporated into the retrieval result
prepared by the retrieving server 2, and is displayed in
the retrieving person's personal computer (including a

20 mobile telephone) 1.

[0095]

In a case where the retrieving person A has selected
the information delivered from the information
administrating server 3, the click information is

25 transmitted to the retrieving server 2 (S601).

[0096]

The retrieving server 2 transmits the click information of the retrieving person A to the information administrating server 3 (S611).

5   [0097]

The information administrating server 3 records the click information into the charge database (S621).

[0098]

Herein, the information administrating server 3 will

10   be further explained in details.

[0099]

In the information administrating server 3, it is also possible that the means for deciding the displaying order is configured of hardware; however normally, the means is

15   realized with a computer program.

[0100]

Fig. 28 is a general block configuration view of the information administrating server 3 having the means for deciding the displaying order of the present invention

20   implemented.

[0101]

The information administrating server 3 shown in Fig. 28 is comprised of a processor 100, a program memory 101, and a memory medium 102. The memory medium 102 can be a

25   separate memory medium, and can be a memory region that is

comprised of the identical memory medium. A magnetic memory medium such as a hard disc can be employed as the memory medium.

[0102]

In the program memory 101 is filed a program for causing the processor 100 to operate as the foregoing means for deciding the displaying order, and this program allows the processor 100 to operate.

[0103]

In the memory medium 102 is filed the foregoing retrieving site company database, retrieval keyword information category mapping-database, retrieving site company category information category mapping-database, information provider database, publication condition database, and charge database.

[0104]

Next, the foregoing operation of deciding the displaying order will be explained in details.

[0105]

The processor 100 reads out corresponding information from the publication condition database. Herein, the case where the requested information is the life insurance-related-information is explained, and the information obtained by extracting only the life insurance-related-information from the information that is listed in the

publication condition database shown in Fig. 19 is shown in Fig. 21. In Fig. 21, the category number of information, the information provider number, the bid amount of money, the information content are correspondingly stored. Herein, the so-called bid amount of money is an amount of money that is paid to the information administrator in a case where the information is displayed and this information has been clicked by the information retrieving person.

[0106]

Conventionally, the displaying order responding to the bid amount of money is decided; however in the present invention, the displaying order is not decided responding to the bid amount of money, but is decided with an probability based upon the ratio of the bid amount of money over the sum of bid amounts of money.

[0107]

With the method of deciding the displaying order, the following equation is computed whenever the order, i.e. the first rank, the second rank, etc. is decided.

[0108]

A probability based upon a ratio of a bid amount of money over a sum of bid amounts of money= (a bid amount of money of each corresponding information)/(a sum of bid amounts of money of corresponding pieces of information) Equation (1)

Hereinafter, a specific example of the method of deciding the pieces of information of which the displaying orders are a first rank to a third rank respectively will be explained.

[0109]

For example, in the example of Fig. 21, the sum of bid amounts of money is 100 (50+20+10+10+10) yen. Thus, the ratio (probability) of the bid amount of money of each information over the sum of bid amounts of money of all corresponding pieces of information in deciding the first rank of the displaying order becomes 1/2 (50/100) with Aiu Insurance Service, 1/5 (20/100) with Insurance Total Portal, 1/10 (10/100) with Akihabara Life Insurance, 1/10 (10/100) with Second Life Insurance, and 1/10 (10/100) with Roppongi Life, respectively.

[0110]

Next, a computation is performed for deciding the displaying order based upon the calculated probability. In the foregoing example, the numerical value of 1 to 100 is given to each information responding to the ratio of each information. For example, the numerical value of 1 to 50 is allocated to Aiu Insurance Service, the numerical value of 51 to 70 to Insurance Total Portal, the numerical value of 71 to 80 to Akihabara Life Insurance, the numerical value of 81 to 90 to Second Life Insurance, and the

numerical value of 91 to 100 to Roppongi Life,
respectively. And, a random number ranging from 1 up to
100 is generated, and the information of which the random
number value and the allocated numerical value coincide
with each other is assumed to rank first in the displaying
order.

[0111]

Continuously, the method of deciding the second rank
of the displaying order will be explained.

[0112]

With the method of deciding the information of which
the displaying order is a second rank, the similar
computation to that of the forgoing method is performed;
however the information of which the displaying order has
been already decided as a first rank is not taken into
consideration. For example, in a case where Insurance
Total Portal has become first-ranked in the displaying
order, the bid amount of money of Insurance Total Portal
is not counted in deciding the second rank, and the sum of
bid amounts of money becomes 80 (50+10+10+10). Thus, the
probability of the bid amount of money of each information
over the sum of bid amounts of money of all corresponding
pieces of information in deciding the second rank of the
displaying order becomes 5/8 (50/80) with Aiu Insurance
Service, 1/8 (10/80) with Akihabara Life Insurance, 1/8

(10/80) with Second Life Insurance, and 1/8 (10/80) with Roppongi Life, respectively.

[0113]

Next, a computation is performed for deciding the second rank of the displaying order based upon the calculated probability. The numerical value of 1 to 80 is given to each information responding to the ratio (probability) of each information. For example, the numerical value of 1 to 50 is allocated to Aiu Insurance Service, the numerical value of 51 to 60 to Akihabara Life Insurance, the numerical value of 61 to 70 to Second Life Insurance, and the numerical value of 71 to 80 to Roppongi Life, respectively. And, a random number ranging from 1 up to 80 is generated, and the information of which the random number value and the allocated numerical value coincide with each other is assumed to rank second in the displaying order.

[0114]

Continuously, the method of deciding the third rank of the displaying order will be explained.

[0115]

With the method of deciding the information of which the displaying order is a third rank, the similar computation to that of the forgoing method is performed; however the pieces of information of which the displaying

order has been already decided as a first rank and a second rank respectively are not taken into consideration. For example, in a case where Insurance Total Portal has become first-ranked in the displaying order, and Aiu

5 Insurance Service has become second-ranked therein, the bid amounts of money of Insurance Total Portal and Aiu Insurance Service are not counted in deciding the third rank, and the sum of bid amounts of money becomes 30 (10+10+10). Thus, the ratio (probability) of the bid

10 amount of money of each information over the sum of bid amounts of money of all corresponding pieces of information in deciding the third rank of the displaying order becomes 1/3 (10/30) with Akihabara Life Insurance, 1/3 (10/30) with Second Life Insurance, and 1/3 (10/30)

15 with Roppongi Life, respectively.

[0116]

The numerical value of 1 to 30 is given responding to the ratio of each information. For example, the numerical value of 1 to 10 is allocated to Akihabara Life Insurance,

20 the numerical value of 11 to 20 to Second Life Insurance, and the numerical value of 21 to 30 to Roppongi Life, respectively. And, a random number ranging from 1 up to 30 is generated, and the information of which the random number value and the allocated numerical value coincide

25 with each other is assumed to rank third in the displaying

order.

[0117]

In accordance with such a method of deciding the displaying order, the larger the bid amount of money is, the higher the probability that the displaying order becomes high-ranked is; however there is the possibility that the information of which the bid amount of money is small ranks high in the displaying order.

[0118]

In addition hereto, also in a case where the information of which the bid amount of money is large has been omitted in the displaying, the possibility of being selected in deciding the information that is to be displayed next becomes high.

[0119]

One example of the program for allowing such an operation to be performed is shown below. Additionally, in the program mentioned below, $client_id signifies a ranking having an advertiser ID filed, $click_amount signifies a ranking having a bid amount of money of each advertisement filed, $ad_count signifies the number of advertisements that are an object of delivery, and $max_ad signifies the number of requested advertisements (where, $max_ad <= $ad_count). In addition hereto, with each function, an explanatory note is given on the program.

```
function ad_sort( $client_id, $click_amount, $ad_count,
$max_ad ){
 for( $cnt = 0; $cnt < $max_ad; $cnt++ ){
   $bid_sum = 0;
   for( $cnt2 = 0; $cnt2 < $ad_count; $cnt2++ ){
    // a sum of bid amounts of money of pieces of object
information except information of which an order has been
already decided is obtained.
    $bid_sum += $click_amount[$cnt2];
    // a sum of bid amounts of money from a forehand
advertisement is filed in a ranking sum.
    if( $click_amount[$cnt2] > 0 ){
     $sum[$cnt2] = $bid_sum;
    }else{ // a zero is set in a case where an order has
already been decided.
     $sum[$cnt2] = 0;
    }
   }
   // information that is an object of display is decided
with a range of random numbers assumed to be 1 to a sum of
bid amounts of money.
   $result = rand(1,$bid_sum);
   // information that is an object of display is searched
for.
```

```
       for( $cnt2 = 0; $cnt2 < $ad_count; $cnt2++ ){

        if( $result <= $sum[$cnt2] ){

        // a bid amount of money of information of which a

    displaying order has been already decided is set to zero.

5       $click_amount[$cnt2] = 0;

        // ID of an advertiser is set in a ranking of a

    displaying order.

        $ranking[$cnt] = $client_id[$cnt2];

        break;

10       }

        }

        }

    // a ranking having a displaying order filed is returned.

    return $ranking;

15   }
```

Next, an applicable example of the foregoing method of deciding the displaying order will be explained.

[0120]

In the foregoing embodiment, in a case where the retrieving person A has selected the information delivered from the information administrating server 3, the click information is transmitted to the retrieving server 2, and the retrieving server 2 transmits the click information of the retrieving person A to the information administrating

server 3. And, the information administrating server 3 makes it a rule to record the click information into the charge database. Thereupon, as an applicable example, the information administrating server 3 is configured to

5 record the number of times of display of information and the click number of its information, and a click through rate as well that is derived from these values is employed in deciding the displaying order.

[0121]

10 The so-called click through rate, which signifies, to the number of times information has been displayed, the ratio of the click number based upon its displaying, is one expressed by the following equation.

[0122]

15 Click through rate=(the click number for displayed information)/(the number of times of display)

Equation (2)

This click through rate is reflected into the foregoing probability of the displaying order as shown in

20 the following equation.

[0123]

A degree at which display of corresponding information is decided=(a bid amount of money of corresponding information)/(a sum of bid amounts of money of

25 corresponding pieces of information) x a click through

rate)

Equation (3)

Specifically, the equation (3) is computed whenever the order, i.e. the first rank, the second rank, etc. is decided. For example, in the example of Fig. 21, it is assumed that the click through rate of each of Aiu Insurance Service, Insurance Total Portal, Akihabara Life Insurance, Second Life Insurance, and Roppongi Life is assumed to be 1/3, 1/2, 1/2, 1/3, and 1/3, respectively, the degree of each information becomes 10/60=1/6(1/2x1/3) from the equation (3) with Aiu Insurance Service, 6/60=1/10(1/5x1/2) with Insurance Total Portal, 3/60=1/20(1/10x1/2) with Akihabara Life Insurance, 2/60=1/30(1/10x1/3) with Second Life Insurance, and 2/60=1/30(1/10x1/3) with Roppongi Life, respectively.

[0124]

Thus, the probability that the displaying order of each piece of information becomes first-ranked becomes 10/23 with Aiu Insurance Service, 6/23 with Insurance Total Portal, 3/23 with Akihabara Life Insurance, 2/23 with Second Life Insurance, and 2/23 with Roppongi Life, respectively.

[0125]

Next, the numerical value ranging 1 to 23 is given responding to the ratio of each information. For example,

the numerical value of 1 to 10 is allocated to Aiu

Insurance Service, the numerical value of 11 to 16 to

Insurance Total Portal, the numerical value of 17 to 19 to

Akihabara Life Insurance, the numerical value of 20 to 21

5 to Second Life Insurance, and the numerical value of 22 to

23 to Roppongi Life, respectively. And, a random number

ranging from 1 up to 23 is generated, and the information

of which the random number value and the allocated

numerical value coincide with each other is assumed to

10 rank first in the displaying order.

[0126]

In accordance with such a method of deciding the

displaying order, the larger the bid amount of money is,

the higher the probability that the displaying order

15 becomes high-ranked becomes is; however there is the

possibility that the information of which the bid amount

of money is small, but of which the click through rate is

high ranks high in the display order.

7. Information publication fee charge

20 The information publication fee charge will be explained

by employing a flowchart of Fig. 22.

[0127]

The information administrator B makes an access to the

information administrating server 3 from the information

25 administrating personal computer 4 (S710).

[0128]

The information administrating server 3 transmits the administration screen (S700). The administration screen is one shown in Fig. 5.

[0129]

The information administrator B selects a bill issue button, and requests a bill issue screen (S711). The information administrating server 3 transmits the bill issue screen (S701). One example of the bill issue screen is shown in Fig. 23.

[0130]

The information administrator B inputs the information provider and date into a charged amount-of-money confirmation screen and transmits it (S712). The information administrating server 3 confirms the charge database, and transmits the charged amount-of-money confirmation screen to the information administrating personal computer 4 (S702). One example of the charged amount-of-money confirmation screen is shown in Fig. 24.

8. Information publication fee payment

An operation of the information publication fee payment will be explained by employing Fig. 25.

[0131]

The information administrator B makes an access to the information administrating server 3 from the information

administrating personal computer 4 (S810).

[0132]

The information administrating server 3 transmits the administration screen (S800). The administration screen is one shown in Fig. 5.

[0133]

The information administrator B selects a payment specification issue button, and requests a payment specification issue screen (S811).

[0134]

The information administrating server 3 transmits the payment specification issue screen (S801). One example of the payment specification issue screen is shown in Fig. 26.

[0135]

The information administrator B inputs the retrieving site company and date into the bill issue screen and transmits it (S812).

[0136]

The information administrating server 3 confirms the charge database, and transmits the payment amount-of-money confirmation screen to the information administrating personal computer 4 (S802). One example of the payment amount-of-money confirmation screen is shown in Fig. 27.

[0137]

Above, an explanation of the embodiments of the

present invention is finished.

[0138]

Additionally, in this embodiment, the advertisement has been employed as an object of the publication priority order; however it is not limited to the advertisement, and it can be information similar hereto.